



INDOOR FLOW MANAGEMENT AND MONITORING SYSTEM

A decorative pattern of light blue circuit board traces is visible at the bottom of the slide, extending across the entire width. The traces are vertical lines of varying heights, some with horizontal segments at the top, creating a stylized representation of a PCB.

CARTTECLAB

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INTRODUCTION

Horustec is an **indoor flow management and tracking system**, developed from a platform that integrates the very latest ultra-wideband technology with multiple functions that make it an essential tool for the retail establishment.

It locates the trolleys in **real time**, collecting data about the trajectories of the buyers and determining flows, hot zones and rush hours within the different sections of the establishment.

Likewise, this system also allows for the **monitoring** of mopping machines, pallet trucks and other logistics trolleys with the aim of improving the distribution and management of the shop.



COMPONENTS

They are easy to install and can be fitted in inconspicuous spaces, as they do not require any wiring due to being a wireless system.

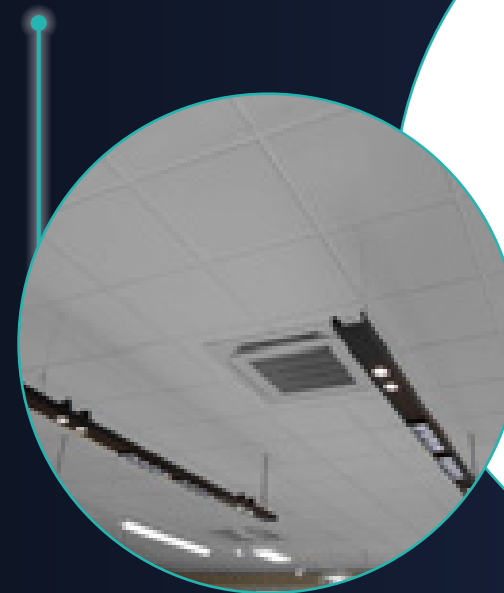
TRACKING SENSOR

Sensors located in baskets and trolleys.



ANTENNAS

Antennas are located in strategic, out of sight places, as they are placed inside the false ceiling of the establishment.



Analysis and potentials

What can we analyse?

1. The trolleys will be permanently under control. Horustec can show how many are in each section and their location at any given moment, as well as even measuring distances within the shop and knowing when trolleys or baskets are less than 1.5 meters from each other.
2. How many trolleys are at the checkout lanes as a whole or at each checkout point.
3. Each trolley's or basket's use or idle time.
4. The location of the trolleys at the car park.
5. In the case of other mobile elements, such as sweepers, the cleaning route, time of use and daily cleaning time.
6. How long it takes to replenish the shelves due to the times and routes of the replacement trolleys.

What services does Horustec offer?

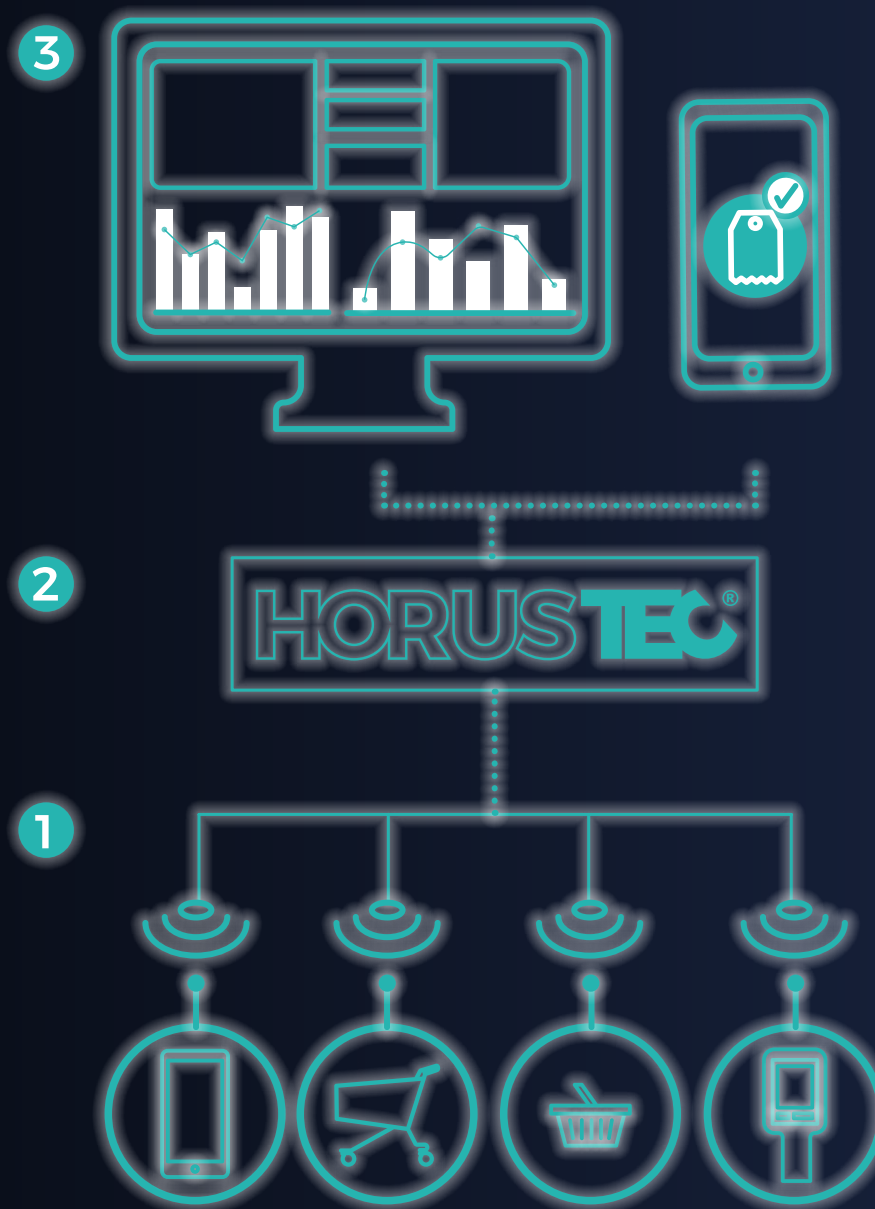
The creation of alerts can be customised to fit the customer's requirements. Here are some examples:

1. It is possible to place an automatic order when a number of lost trolleys is exceeded.
2. When a trolley is stopped in the same area for five minutes, Horustec sends an alert to the shop manager.
3. If the maximum number of trolleys or baskets on a small parking bay or corral in a certain area is exceeded, a warning is sent.
4. The manager receives an alert in case there are more than four trolleys at the checkout point.
5. When the battery life is running out, an alert is also sent.



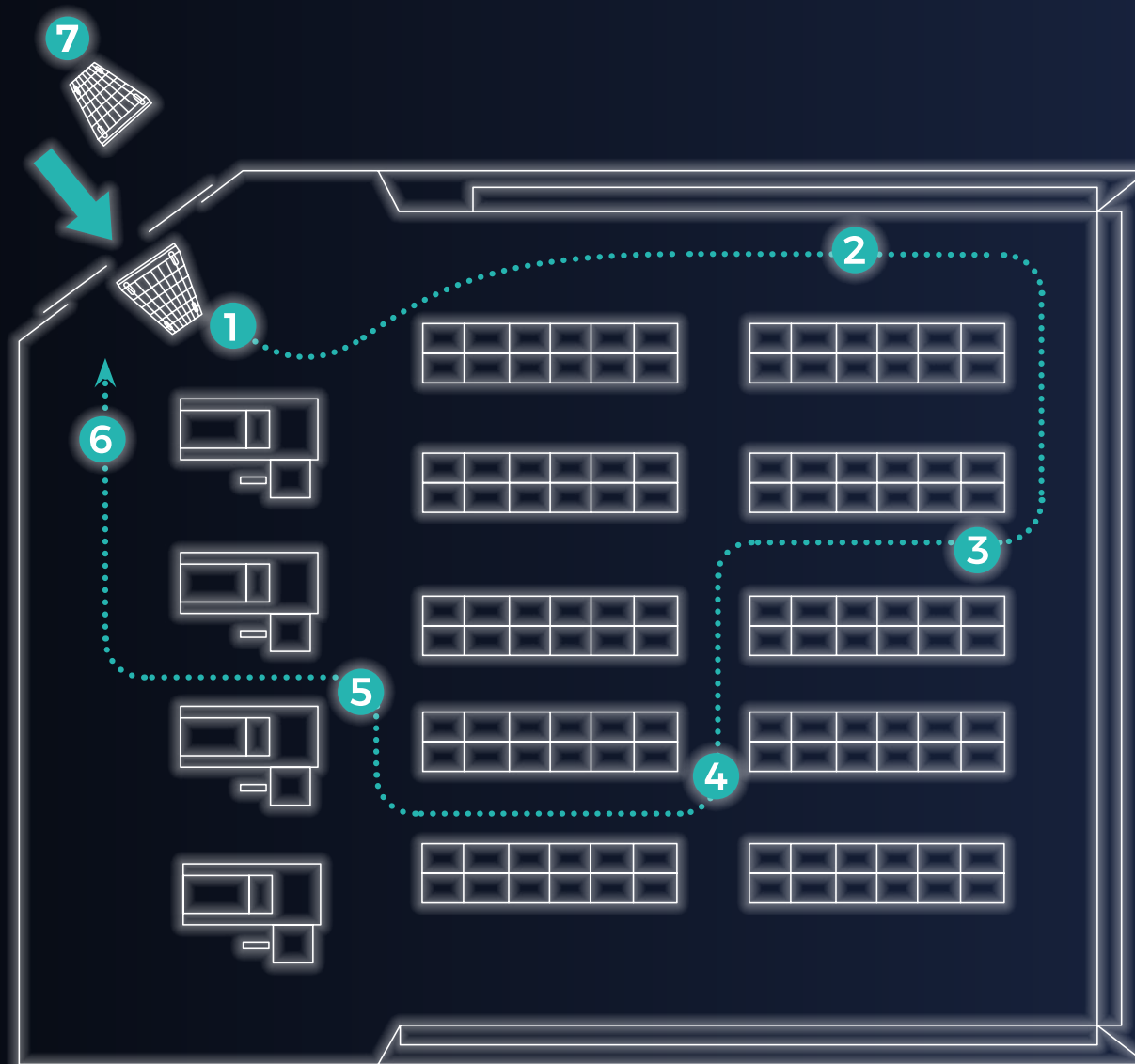
Operation

- 1 The system collects data on the route taken by customers with the trolleys inside the shop and keeps track of how long much time has been spent in the shop by each of them.
- 2 The data is processed by Horustec's algorithms making control and management activities in the establishment easier.
- 3 The information is interpreted in real time to evaluate and optimise the results with the highest precision and showing the consumers' interactions and routes.



Example of how it works

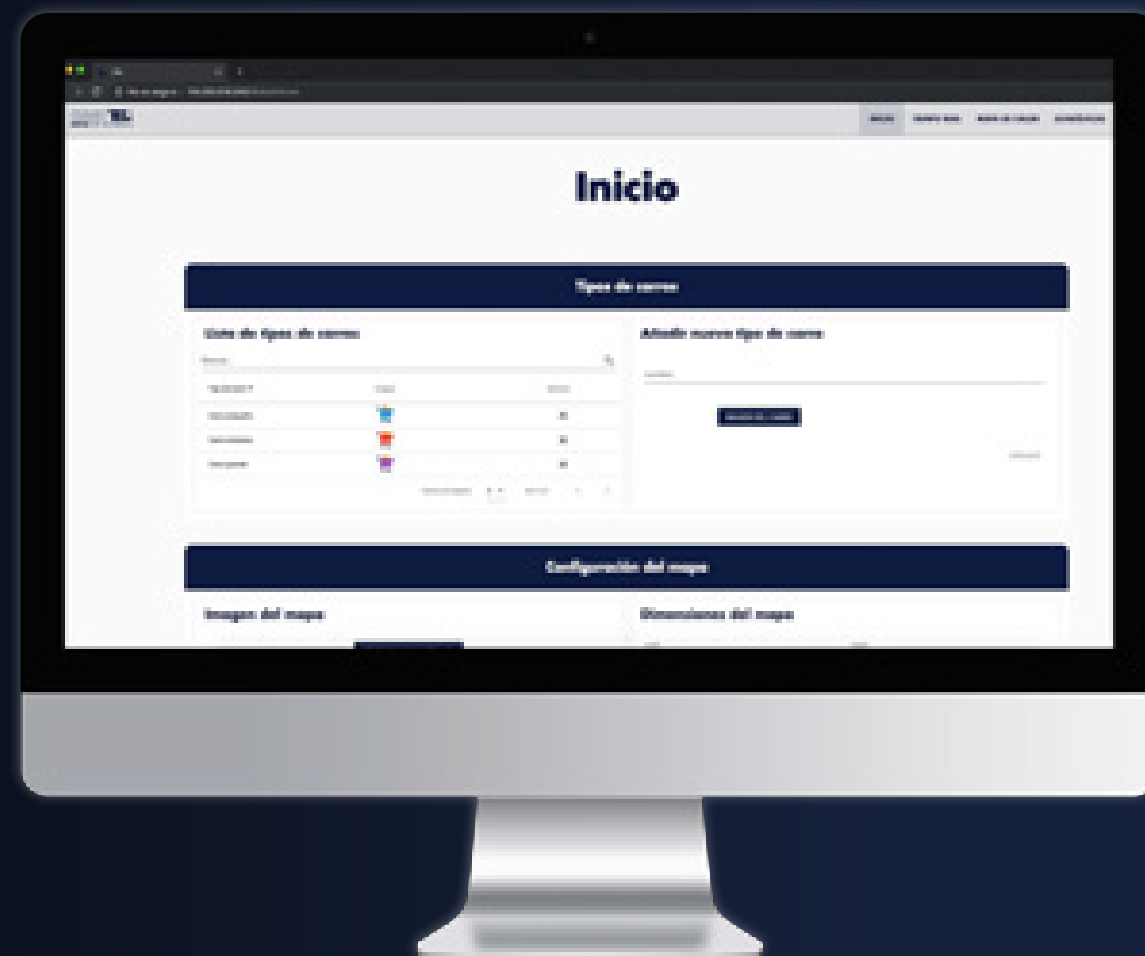
- 1 Entrance to the shop at 11:45 am
- 2 The customer stops for 10 minutes at the produce area
- 3 6-minute stops at the deli section
- 4 4-minute stop at the drugstore section
- 5 The customer waits at the checkout lanes for 3 minutes
- 6 **The customer has been in the shop for 23 minutes** and has bought the following products
- 7 The customer has parked the trolley at "parking bay 3"



Fruit	6,50€
Meat	8,30€
Wine	12,20€
Pasta	3,00€
Hand sanitiser	1,50€
Cheese	3,50€

TOTAL 35,00€

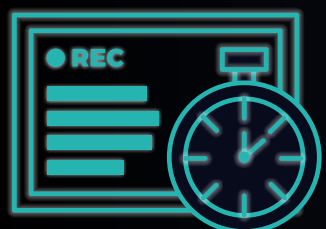
Platform



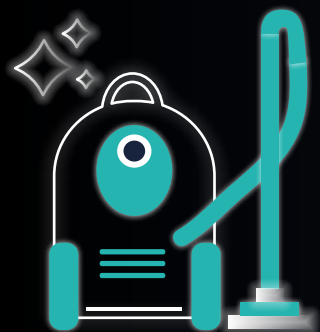
Management advantages



- 1 It allows the use of the same channel without interference from other devices using the same bandwidth range



- 2 It enables the transmission of video signal in real time.



- 3 As it can be installed in any asset, it provides data not only from the shopping trolleys, but also from other trolleys in the establishment itself. For instance, it can analyse the effectiveness of the cleaning activities or the movements from the warehouse to the sales room. It allows the establishment to know how long it takes to replace the shelves by knowing the times and routes of the replenishment trolleys.

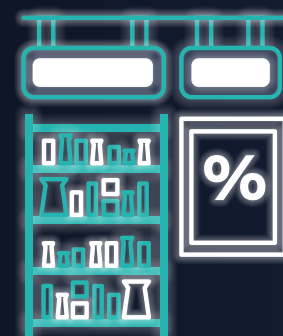


- 4 It reduces costs and simplifies the inventory

- 5 It compares the different times and locations within the shop.



- 6 It improves and optimises the management of the different sales areas and sections (hot and cold spots, crowds and queues). It also improves the productivity of the collection of trolleys at the car park



- 7 By viewing the number of trolleys and baskets in movement, we can have a reference of the capacity in the shop. Also, the system can be connected to a visual counting indicator.

Distribution advantages



- 1 Optimised display and distribution.
- 2 Horustec informs and facilitates the redistribution of the flow of customers to less busy areas of the shop.
- 3 It provides information for the specific location of specific brands which leads to an increase in margins.

Marketing advantages



- 1 Data on the typical customers' profile and their buying habits.
- 2 Increased ability to influence consumer decisions in the shop.
- 3 Measurement and evaluation of the return on investment.
- 4 It allows the design of marketing strategies based on specific events such as rainy days, holidays or long weekends.

Management operations

- 1 Recognition of possible queues at the checkouts and their prevention thanks to algorithms that calculate the estimated time according to the data collected.
- 2 Horustec calculates the waiting time at the checkouts and service areas, such as fish or meat areas, optimising the organisation of the staff's shifts.
- 3 Horustec improves the trolley collection management at the car park and in the influence areas of the shop.

Real-time alarms

Shop manager's mobile alert system:

- If there are more than X customers in the shop at that time.
- If there are more than X customers in the queues of sections X.
- If there are more than X customers at the checkouts.

The alarms are customisable according to the establishment's needs.



Inventory management

- 1 Control of the availability of trolleys and baskets at the establishment's entrance and car park, enabling their fast relocation.
- 2 Use of the different trolleys and their management in real time.
- 3 Management of trolley collection outside the sales area.
- 4 Visualisation of what can be the optimum fleet of trolleys and baskets and their ideal proportion.
- 5 Knowing what is the most convenient size of trolleys and baskets, according to volume preferences.

Real-time alarms

- To know if more than X assets are being used at the same time.
- To find out how many trolleys are inside the shop, how many in the car park and/or on the outside blankets.
- To track internal assets in real time and optimise shop operations according to related criteria.



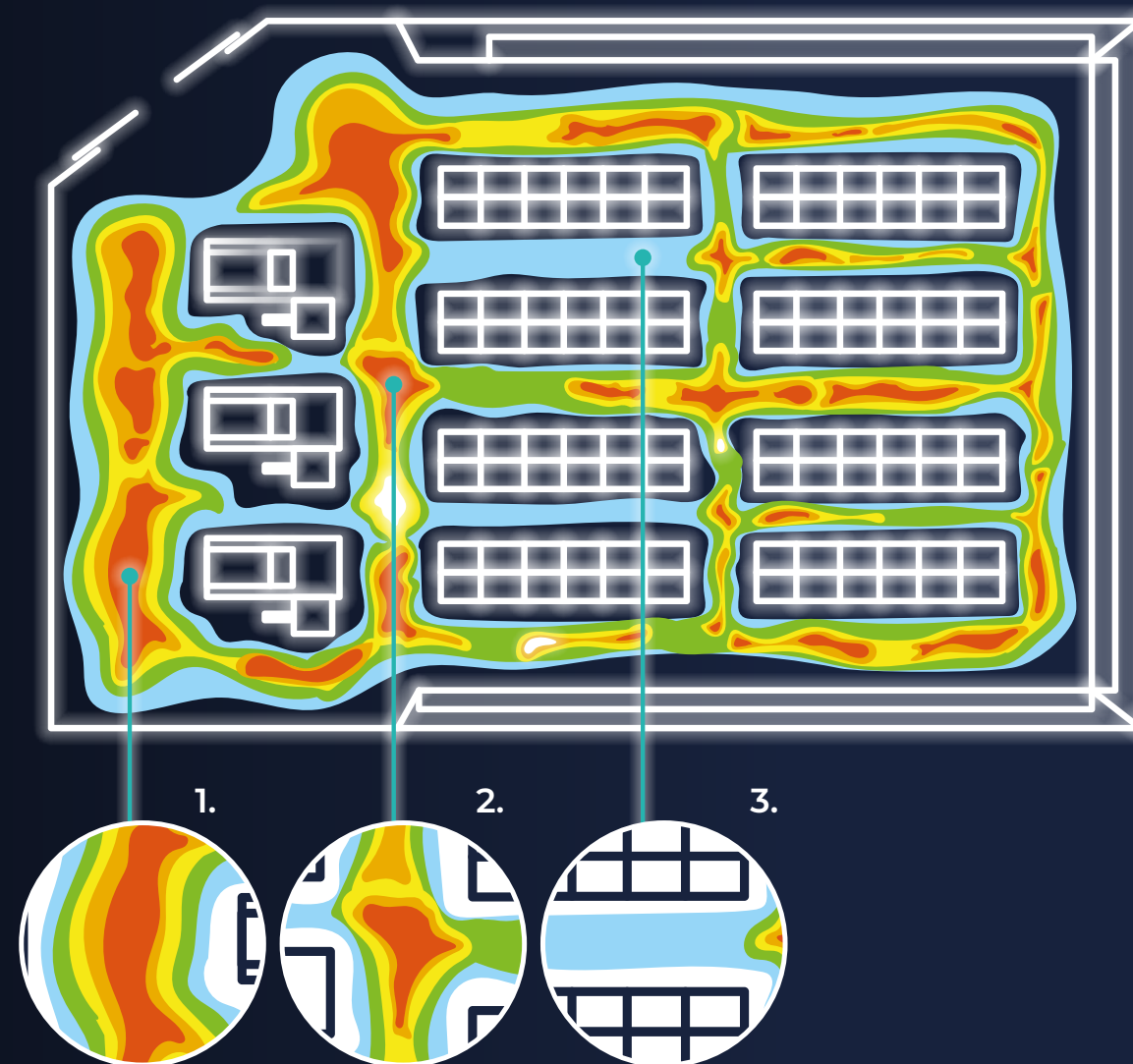
Analysis of consumer behaviour

- 1 The Horustec system also analyses the behaviour of the consumers in the different zones of the establishment, showing which spots are hot or cold and defining the rush hours of the different sections
- 2 In turn, it is possible to know the behaviour of consumers in promotional areas and their preferences when choosing products.

1. Very hot area: Great affluence of shoppers. Specific actions are recommended to reduce the congestion of customers in this area and make shopping easier.

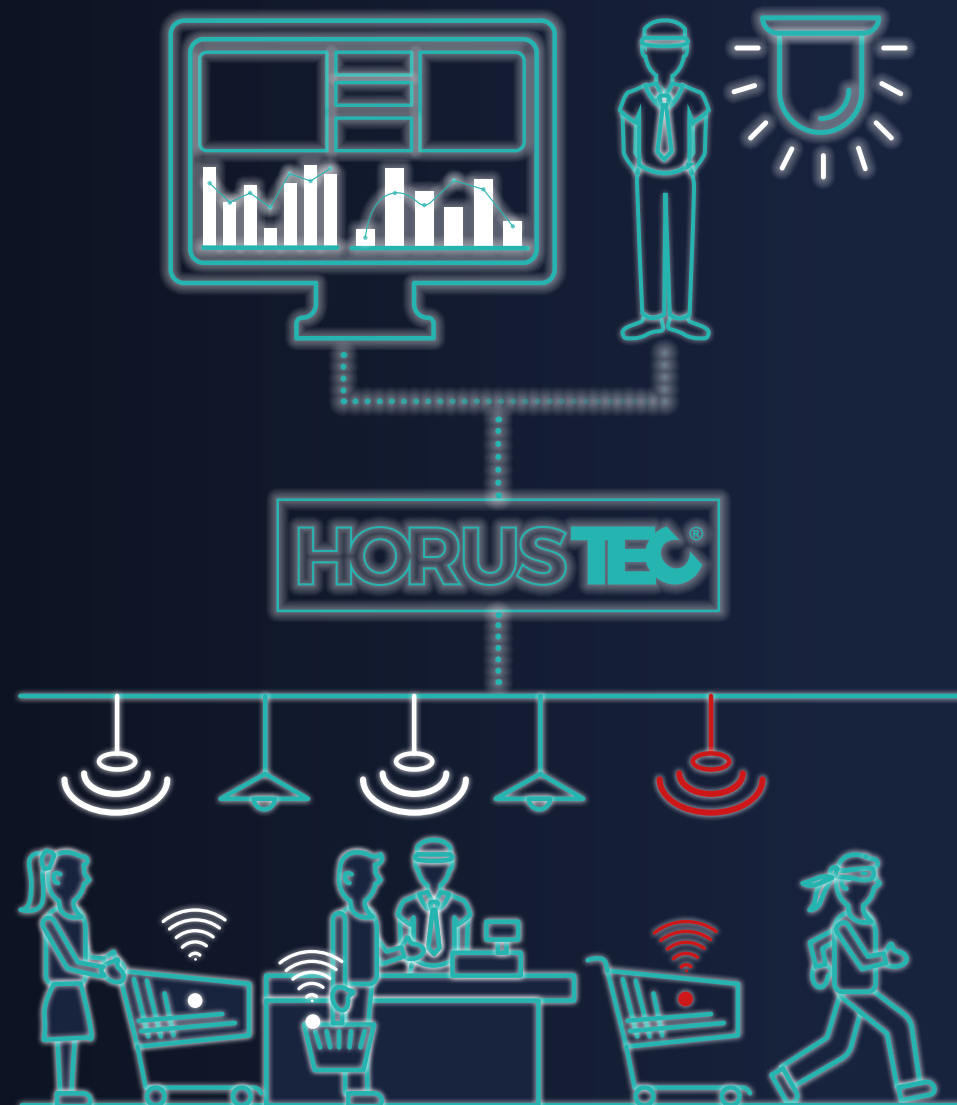
2. Hot area: Frequently crowded. Promotions could be moved to this area to encourage sales.

3. Cold area: Little or no traffic. It is advisable to look for new marketing strategies to capture the customers' attention in these areas.



Your ally in security

- 1 Horustec recognises suspicious patterns in customer behaviour. The algorithms study behaviours and learn over time to tell the difference between usual procedures and questionable behaviours.
- 2 The system sends real-time alerts when someone unauthorised tries to leave the shop with a trolley.



HORUSTEC®

● ● ● OVERVIEW



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